Aboriginal Archaeological Assessment

Taronga Zoo, Mosman, NSW

Savannah & Congo Precincts

Report to

Taronga Conservation Society of Australia

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Report details

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Report summary

Taronga Conservation Society Australia (TCSA) is redeveloping the Savannah & Congo exhibit at Taronga Zoo in Mosman, NSW. A large proportion of the land has already been heavily modified by extensive and ongoing European development and most of the study area retains limited Aboriginal archaeological potential. However, one area of potential archaeological sensitivity was identified during project planning to comprise about 1.000 sqm of 'leftover' sandstone topography in the northwest of the precinct that is bordered on all sides by roadways, exhibits and buildings. This Aboriginal archaeological assessment has been prepared for TSCA in consultation with the *Metropolitan Local Aboriginal Land Council* to identify potential Aboriginal archaeological constraints that may exist for the proposed changes in use for the study area and to guide how future impacts to any documented or potential archaeological sites, objects or areas of sensitivity can be avoided or mitigated according to the requirements of the *National Parks and Wildlife Act 1974*.

Background research and field survey indicates that:

- No *previously* documented Aboriginal archaeological sites or 'objects' have previously been recorded within the boundaries of the study area or in immediately adjacent areas.
- No sandstone overhangs suitable for occupation or the creation of art by people in the past occur within the study area.
- No rock engravings have been identified on the surfaces of the outcropping sandstone at the site.
- No axe grinding grooves have been identified in the study area.
- None of the timber inspected displays any evidence for cultural modification. The trees on the site consist either of sapling re-growth or relatively immature specimens that are highly unlikely to be of a sufficient age to display evidence of past Aboriginal scarification.
- No open campsites (or isolated finds of flaked stone etc) have been identified. While these types of archaeological evidence can be difficult to detect in sandstone landscape contexts such as reported here, there is no reason to expect that the current study area was subject to intensive or repeated visitation and use by Aboriginal people in the past that would have created substantial and significant archaeological deposits.
- The study area itself would not seem to contain any 'stand out' or highly valuable resources (beyond sandstone), suggesting the place may have been visited sporadically by people in the past as they moved to and from more attractive landscape contexts and resource zones.
- No specific areas of *potential Aboriginal archaeological sensitivity* relative to the proposal have been identified in the course of preparing this report.

It is recommended that:

I There are no *obvious* Aboriginal archaeological constraints to the proposal proceeding as planned and works should proceed as intended but with caution.

II In the (largely) unexpected circumstance that Aboriginal objects are unearthed or features such as rock engravings exposed in the future, it is recommended that activities should temporarily cease and the OEH be contacted to advise on the appropriate course of action to allow the MLALC to record and collect the identified item(s).

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Supporting Documentation

Appendix 1: MLALC Cultural Heritage Statement

Appendix 2: AHIMS Site Search

Appendix 3: OEH Due Diligence

1.0 Introduction

1.1 Background

Taronga Conservation Society Australia (TCSA) is redeveloping the African Savannah & Congo Exhibit at Taronga Zoo in Mosman, NSW. The proposal will require the removal or upgrade of redundant animal enclosures and back-of-house spaces, and the works will affect buildings and exhibit/landscape fabrics with low to no heritage significance. The vast majority of the precinct is covered by hard surfaces (buildings, roads, 'mock rock' exhibit features) and no natural ground surfaces other than quarried vertical and horizontal stone faces are currently exposed. Previous assessment of the precinct (Godden MacKay Logan 2004 and **Figure 1.4**) indicates the majority of the study area is likely to possess minimal Aboriginal archaeological potential because of the accumulated impacts of multiple phases of historical construction that have disturbed or destroyed buried soils and both surface and subsurface sandstone elements as part of the progressive modification of the natural sandstone topography of the place.

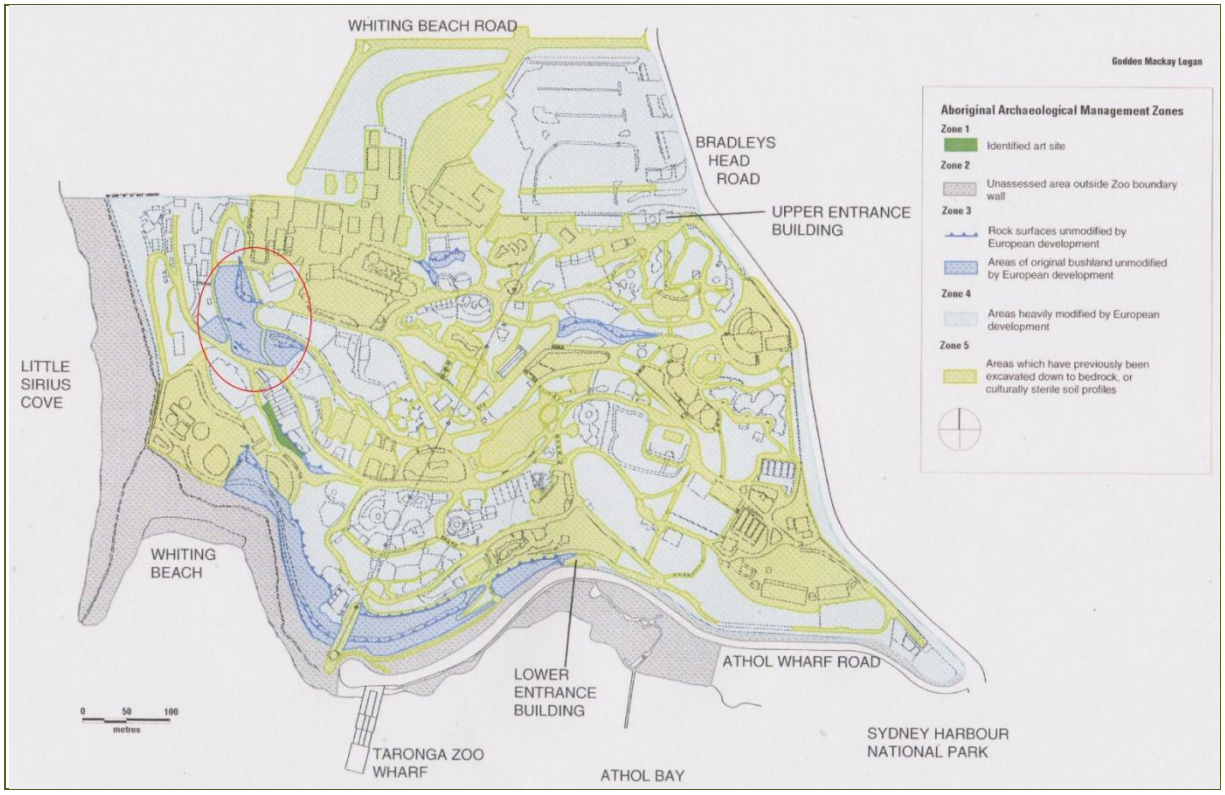
Figure 1.1: Location of the Savannah & Congo Exhibit Precincts (TCSA 2017)

However, one area of potential Aboriginal archaeological sensitivity was identified during project planning and initial consultation with the *Metropolitan Local Aboriginal Land Council* (MLALC) to comprise a small portion (c.1.000 sqm) of 'leftover' sandstone topography that is broadly triangular in shape and bordered on all sides by roadways, exhibits and buildings.

Figure 1.2: General location of the area under study (TCSA 2016)

Figure 1.3: Existing context of the study area (TCSA 2016)

*Figure 1.4: Aboriginal archaeological management zones (*GML 2004: Figure 6.1*)*



This Aboriginal archaeological assessment has been prepared for TSCA with the objectives of identifying potential archaeological and cultural heritage constraints that may exist for the proposed changes in use for the study area (see below), and in consultation with the *Metropolitan Local Aboriginal Land Council* (MLALC), to guide how future impacts to any documented or potential archaeological sites, objects or areas of sensitivity can be avoided or mitigated according to the requirements of the *National Parks and Wildlife Act 1974*.

1.2 Proposed change in use of the site

The study area comprises a comparatively small and well defined parcel of vacant space surrounded on all sides by existing roads and buildings. It retains natural (but in part modified) sandstone topography, along with a few native trees that are interspersed amongst a generally sparse and degraded ground cover consisting of a mix of native and introduced vegetation. As illustrated in later sections of this report, the locality consists of gently to steeply sloping land whose existing above-ground surfaces are dominated by the occurrence of a series of large and irregular outcrops of benched, boulder and shelved sandstone, and the consistently sloping ground surfaces that occur between, and generally below, the main rock elements are currently covered by a mix of leaf litter, and in parts redeveloped and organic rich soil materials. The nature, depth and integrity of any 'original' or in situ subsurface soil profiles that may be present or survive in the locality below current ground surfaces is not currently known.

TCSA propose to utilise this space in a future exhibit whereby the general topographic character of the land that is established and defined by the layout of the sandstone outcropping will be retained, but open spaces between the main rock elements offer an opportunity to be reused and incorporated into the future design layout of the exhibit. The spaces may require some level of cutting and filling to achieve future desired contours and grades, and this archaeological assessment provides advice on where and how this can be practicably achieved to avoid or minimise potential archaeological heritage impacts.

1.3 Project SEARs and scope of this study

The *Secretary's Environmental Assessment Requirements* (SEARs) issued for the project require Aboriginal heritage to be addressed in accordance with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (2005) and *Aboriginal Cultural Heritage Requirements for Proponents* (DECCW 2010).

At the time of the commencement of heritage planning for the project in August 2016, TSCA were (and continue to be) actively involved in consultation with the *Metropolitan Local Aboriginal Land Council* (MLALC) about projected future and currently proposed changes to the zoo in general, and the ongoing conservation of the only documented Aboriginal heritage site known to occur within the zoo grounds (AHIMS Site #45-6-1959) in particular. This rock shelter with art is currently being managed under an *Aboriginal Heritage Impact Permit* (AHIP) that has been issued by the *Office of Environment and Heritage* (OEH).

During initial consultation with the MLALC for the current project, it was noted that the main area of remnant bushland vegetation and intact sandstone topography contained within the study area, and as identified to be the principal location to retain potential archaeological sensitivity, was limited in size (c.1000 sqm). It was also noted that future impacts to the locality would be limited and would not affect the fabric or layout of the natural sandstone outcropping that defines the site, and that will be retained.

On the basis of these considerations, it was determined that at the time when this study was commissioned (relatively early in the planning process in August 2016) that it would be most effective for TCSA to undertake wider Aboriginal community consultation in accordance with the project SEARs when the findings and conclusions of an initial due diligence level archaeological assessment were known, and TSCA and the MLALC were in an informed position about future Aboriginal heritage management opportunities and constraints prior to the commencement of formal Aboriginal community consultation.

No Aboriginal archaeological or cultural heritage constraints have been identified by this due diligence assessment that has been completed with the MLALC. TSCA will undertake Aboriginal community consultation in compliance with the SEARs should this still be required following evaluation of this report.

1.4 Statutory protection for Aboriginal cultural heritage

Two pieces of legislation provide automatic statutory protection for Aboriginal heritage and the requirements for its management in NSW and comprise the *National Parks and Wildlife Act* (1974 as amended) and *Environmental Planning and Assessment Act* (1979 as amended). The *Office of Environment and Heritage* (OEH) has the responsibility for the protection and management of Aboriginal sites, objects, places and cultural heritage values in NSW. These values are defined and managed through the provisions of the *National Parks and Wildlife Act 1974* (NPW Act) which was amended through the *NPW Act Amendment Act 2010*. Key points of the amended Act that have most relevance to this study are as follows:

- Part 6 of the NPW Act provides protection for Aboriginal objects and places by establishing offences of harm which is defined to mean destroying, defacing, damaging or moving an Aboriginal object. Aboriginal objects are defined by the NPW Act as '*any deposit, object or material evidence (not being a handicraft for sale) relating to Indigenous and non-European habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains*'.
- A declared Aboriginal Place this is of special significance to Aboriginal people and culture is a statutory concept (and may or may not contain Aboriginal objects as physical/tangible evidence) and protection provided to Aboriginal objects and places applies irrespective of the level of their significance or issues of land tenure.
- It is an offence (under Section 86) of the NPW Act to knowingly, or cause or permit harm to an Aboriginal object (or place) without prior written consent from the DG of the OEH. Defences and exemptions to the offence of harm under the NPW Act include that harm is carried out under the terms and conditions of an approved Aboriginal Heritage Impact Permit (AHIP).

1.5 Method and objectives

This report has been prepared according to the following heritage assessment guidelines and standards:

- Australia ICOMOS. 2002 (Revised). The Burra Charter. The Australia ICOMOS Charter for Places of Cultural Significance. Australia ICOMOS Inc.
- NPWS. 1997. September. Aboriginal Cultural Heritage Standards & Guidelines Kit.
- NSW Department of Environment, Climate Change & Water. (DECCW) 2010a (September). Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales. DECCW. Sydney.
- NSW Department of Environment, Climate Change & Water. (DECCW) 2010b (September). Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales. DECCW. Sydney.

This due diligence Aboriginal heritage assessment has been undertaken in accordance with the Due *Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010). This is a step by step formulae

method that involves '*taking reasonable and practical measures to determine whether your actions will harm an Aboriginal object and, if so, what measures can be taken to avoid that harm'* (ibid: 4). The steps in the due diligence processes are detailed below and each are addressed in the following sections of this report:

1. Step 1 *Determining if the activity will disturb the ground surface or any culturally modified trees.*
2. Step 2a *Database search: Aboriginal heritage information management system (AHIMS) and known information sources*.
3. Step 2b *Landscape assessment*.
4. Step 3 *Impact avoidance assessments*.
5. Step 4 *Desktop assessment and visual inspection.*

The 'Code' specifies that if the initial assessment process identifies that Aboriginal objects will or are likely to be harmed, then further investigation and impact assessment is required (**Appendix 3**).

1.6 Aboriginal consultation

The Zoo falls within the *Metropolitan Local Aboriginal Land Council's* administration boundaries, and an inspection of the study area was undertaken by Dominic Steele (DSCA) and MLALC Sites Officer Jay Daley on 15 July 2016. A draft of this report was provided to the MLALC for comment prior to finalisation. A copy of the *Cultural Heritage Statement* for the proposal that has been prepared by the MLALC is appended (**Appendix 1**).

1.7 Report outline

This report presents the following:

- An introduction to the project (**Section 1.0**).
- An overview of the environmental setting of the study area and the historical context of the development of the land with a focus on the only previously recorded Aboriginal archaeological site (AHIMS Site #45-6-1959) and its context that is located within the zoo grounds This site provides a relevant context and example to establish the archaeological expectations that were identified for the study area prior to the inspection of the site (**Section 2.0**).
- A brief Aboriginal archaeological overview for the project (**Section 3.0**).
- A summary of the findings of a site inspection and recording of the study area (**Section 4.0**).
- An assessment of the archaeological sensitivity of the site and heritage management conclusions that have been developed for the proposed future uses of the site (**Section 5.0**).
- Aboriginal archaeological management recommendations (**Section 6.0**).
- Sources and references cited in this report (**Section 7.0**).

2.0 Landscape setting and Aboriginal archaeological evidence

2.1 Topography, vegetation and soils

The Zoo occupies approximately 31 ha of land that encompasses three main sandstone ridges. These comprise a series of rock ledges and terraces sloping and shelving down towards the foreshore. A 'seasonal' watercourse with several natural ponds bisects the Zoo grounds. The Hawkesbury Sandstone derived soils are generally shallow and sandy loams where they survive in situ with deeper profiles occurring in the gullies, and before the zoo was developed from c.1913, the natural vegetation will have included tree types such as Smooth-barked Apple, Sydney Peppermint, Red Bloodwood, Scribbly Gum and Gray Gum. Remnants of original brush vegetation survive in the moist central zoo gully.

2.2 AHIMS Site #45-6-1959

AHIMS Site #45-6-1959 forms part of a modified series of natural sandstone rock shelves that create a 2m-3m high cliff line or face that runs broadly parallel with and above Bird Show Road. The roadway was constructed by c.1962 and has remained largely unaltered since that time. The sketch plans drawn of the site in 1990 and photograph below illustrate how the site appeared at that time, and the images that follow show how the locality looks now.

Figure 2.1: 1990 recording of AHIMS Site #45-6-1959

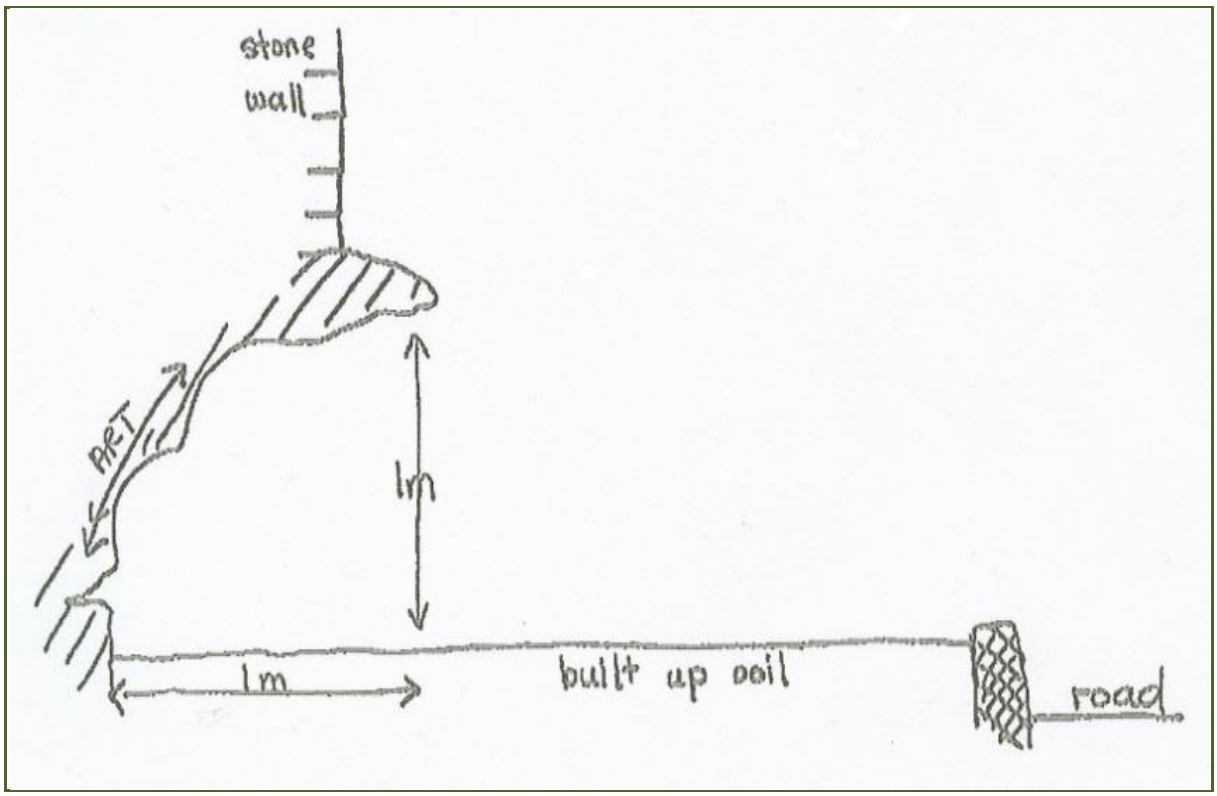


Figure 2.2: Seven hand stencils recorded at AHIMS Site #45-6-1959 in 1990

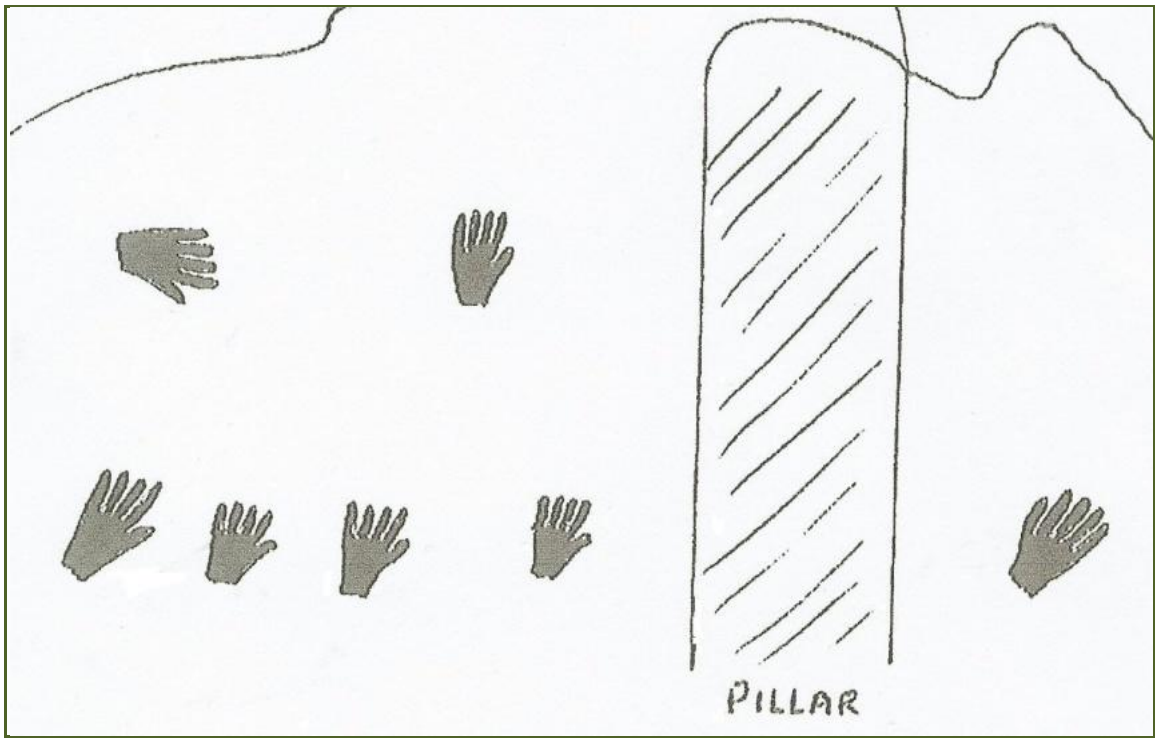


Figure 2.3: Less vegetated condition of AHIMS Site #45-6-1959 originally recorded in 1990

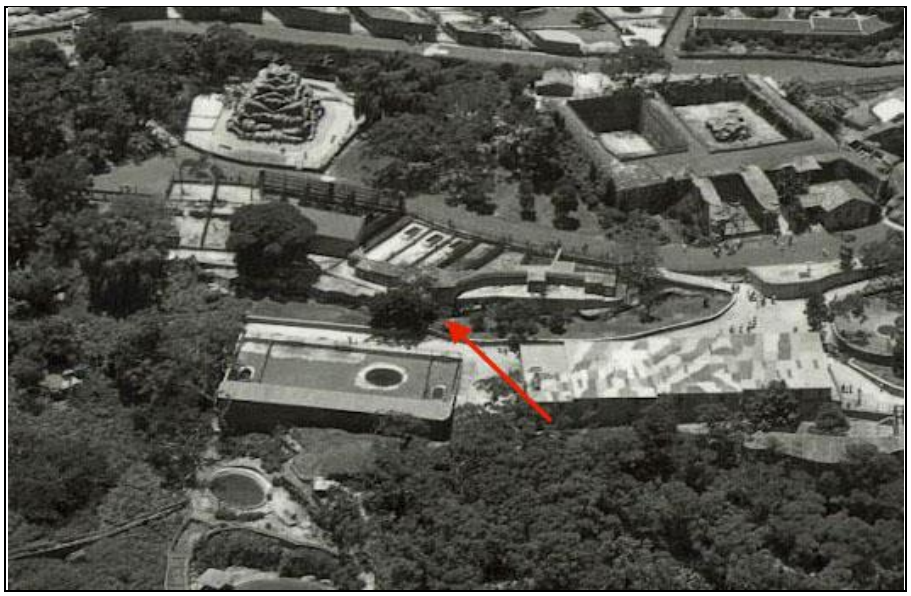
Figure 2.4: Condition of AHIMS Site #45-6-1959 and its immediate surrounds recorded in 2013

2.2 Historical context

The area around AHIMS Site #45-6-1959 was not developed until after the 1930s in 'bush' below the Lion and Tiger exhibits (built after 1913). Later 1960s images show exhibits above the natural rock shelf and a roadway below it which was cut into the rock shelf at the western end. Retaining walls were built at the eastern end of the new road to create a larger level area for exhibits at the upper level. A ramp had also been built from the older upper road down to the lower (newer) road giving access to a range of animal exhibits constructed below the lower road. The exhibits below the lower road were removed in recent years and replaced with an amphitheatre now used for the free flight bird show. The lower roadway (Bird Show Road), rock shelf and exhibits above remain unaltered from their form evident in the 1962 aerial image below.

Figure 2.5: Approximate location and context of the rock shelter with art in 1930

Figure 2.6: Approximate location and context of the rock shelter with art in 1962



2.3 Existing condition of AHIMS Site #45-6-1959

The site was first recorded in 1990 by an amateur enthusiast (Michael Guider) and was described at that time in the following way:

> *Rock shelter facing south directly opposite; length 16ft, height 4ft, depth 5ft. A Port Jackson Fig tree separates the Dreamtime rock mural...from these original hand stencils.*
>
> *7 white hand stencils on wall faint but still very clear. No occupation seen on the floor grass lawn at front of shelter built up by retaining wall. The back of the Hunting Dog and Dingo exhibits are directly above cave.*

Images of the site in 1990 show the (garden) area in front of the shelter and adjacent to the roadway to be grassed but otherwise clearer of vegetation. The rectangular cement pier that is supporting the roof of the overhang is believed to have been built at the same time as the masonry animal shelters above the shelter in c.1940. It is also evident that the conditions of the rock surfaces within the shelter have deteriorated considerably since 1990 as a result of tree root growth, water seepage down the rear wall, and the loss of considerable sections of surface rock. An annotation to the AHIMS record for Site #45-6-1959 notes that eight hand stencils were visible in 1991, and the last reliable sighting of any of these motifs was in 1997 when the shelter was inspected during the preparation of the zoo's Heritage and Conservation Register. Only one or possibly two of the seven or eight stencils are partly visible now, and the others may have either faded or eroded away entirely from water run-off over the last 25 years and/or as a result of the weathering, cracking and general exfoliation of the sandstone surfaces on the rear wall of the overhang that has been directly caused (and/or accelerated) by tree root growth and cracking from weight stress on the cliff line from above.

Figure 2.7: A c.1997 photo of at least one hand stencil at the site. The surface of this stone is now or heavily deteriorated and has a large tree root growing across it

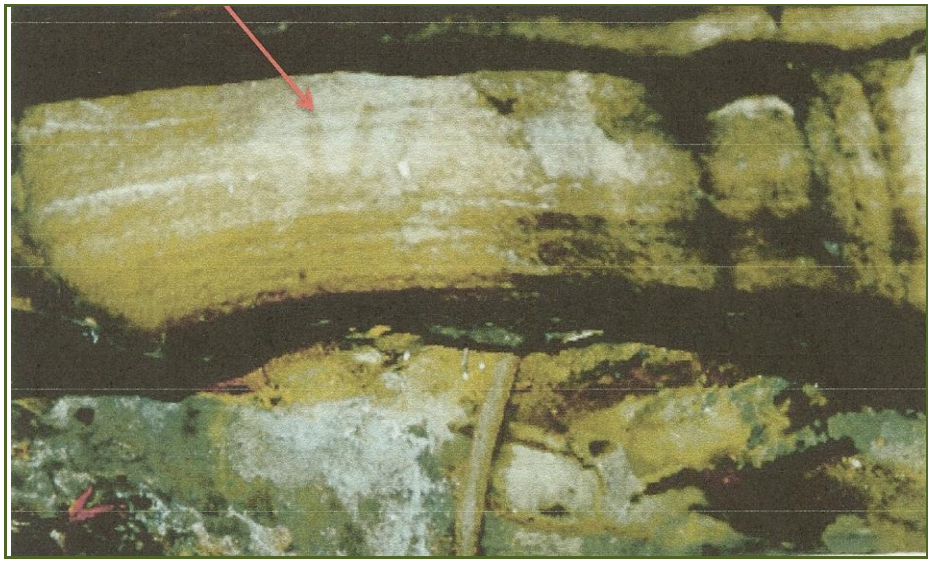


Figure 2.8: The probable location of the above photo; this area of stone below the tree roots is deteriorated (Rice 2016)

Photos taken in late 2014 that have been digitally enhanced show at least one (and possibly two) partial hand stencil on the rear wall of the shelter behind the supporting pier, but comparison of the 1997 photograph with the site today indicates that the face of the stone has been lost in the area where most of the hand stencils were originally recorded in 1990.

3.0 Local Aboriginal archaeological context

3.1 Overview

There are 107 Aboriginal archaeological heritage sites currently recorded in the Mosman LGA. These have been recorded in virtually all types of landforms including midden deposits in sandstone rock shelters of suitable size that provided protection to people during possibly inclement weather conditions, and also in open coastal/estuarine foreshore environments. Painted and drawn art images in sandstone overhangs/shelters are also well represented, along with some engraved images and axe grinding grooves created on the surfaces of usually flat rock platforms. Open campsites (without shell midden) that are commonly represented by the presence of durable materials such as flaked (and occasionally ground) stone artefact scatters reflective of repeated site use of both short and long term duration are less common. Shell middens are predominant (63%) in the Mosman area, but shelters with art are also comparatively common (35%).

One rock shelter with deposit occurring both within and outside the overhang has been excavated in Mosman at Balmoral Beach and is dated to around 4,000 years BP for first occupation. The upper half of the approximately 2m of deposit identified as the site was found to be principally of shell midden with fish bones well represented and some land animal bone materials. The amount of organic material decreased (decayed over time) with depth in the lower 1m of deposit leaving only stone artefacts. The uppermost undisturbed shell midden deposits within the shelter have been dated to approximately 2,700 years BP (Attenbrow 2010:157).

Eighteen shell species were recovered during the excavation with rock platform species (primarily oyster) being dominant. Bones of snapper were the most common fish elements identified, although over a dozen other different species were also present. In addition, macropod (kangaroo/wallaby) and glider bones were the most common land animals identified, and a number of Dingo bones were also recovered in deposits dated to c.3,0000 years ago which are some of the earliest archaeological Dingo bones in Australia. Several bone points and a shell (Sydney cockle) with resin still adhering indicating it was originally hafted were recovered from the upper layers, and stone artefacts were primarily made of red silcrete and included numerous backed blades (Bondi points). When the first cultural deposits started to accumulate in the shelter a tidal lagoon existed at the site that began infilling around 3,200 and 2,500 years ago and it possible that the extent of intertidal/shallow sub-tidal areas in the vicinity of the rock shelter was then at its maximum.

AMBS (2005:vii) report several trends related to the distribution of Aboriginal archaeological sites in the Mosman LGA that suggest various places were associated with different activities including major campsites and a range of special activity camps (eg. bachelor, initiation, craft, fishing, art) and some may have had a ceremonial purpose. Similar to engraved art, pigment art (creating motifs like hand stencils) can vary dramatically in size, colour and composition where some shelters may contain only a single hand stencil whilst

another nearby may have hundreds of multicoloured motifs of varying sizes and styles/designs. Pigment art is generally only found within shelter sites in Sydney because it does not survive for long in open contexts, although in more arid parts of Australia art that is known to be of pre European origin is still visible on exposed rock surfaces in open contexts. In contrast with engravings, pigment art which has survived in the Sydney region is generally more often located in areas associated with subsistence activity rather than dramatic views.

AMBS (2005:64) further suggest that in Mosman, pigment art tends to be found in camping places, while engravings tend to be related to more aesthetically driven qualities such as views and elevations etc). The caveat is that this division is based upon a continuum between the two types of rock art *technique* sites, which may statistically be true but may not describe all art sites. In this respect, it is noted (ibid) that:

> *'in short, the difference between the rock art techniques are a good indicator of past behaviours at specific locations, but are in themselves not sufficient evidence to identify the specific behaviour. In other words, just because a place has painting does not mean it was a secular place and likewise just because a place has engravings does not mean it was a ceremonial location'.*

Mosman rock art corresponds to Sydney region rick art described in regional analyses by McCarthy, Maynard (McMah), and most recently McDonald, and conform to the larger Sydney regional 'simple figurative' genre. Chronologically, simple figurative art appeared during the last phase (c.3,000 BP) of McDonalds (1994) Bondaian art sequence. The similarity of the style between the two techniques however does not translate into a similarity of subject and appears to have been used for different purposes. The dominant motif for pigment art in the Sydney Basin are hand stencil's and account for just under half (49%) of all motifs. The proportion of the recorded hand stencils is much higher for the Mosman area at over 80% (n=62).

Stencil-only sites (art sites where no other archaeological attributes are present or apparent) tend to be found in the Mosman LGA relatively high on ridgelines, and often within shelters with commanding views. Pigment art in the Sydney region is predominantly found on hill slopes (c.70%) where large shelters provide a good medium and around 80% of Mosman's pigment art sites are found on such landforms. According to McDonald (1994), Mosman falls within the 'Guringai' style boundary (north of Port Jackson and south of the Hawkesbury). However, Mosman's dominance of fish motifs and lack of mundoes (tracks) suggests the evidence fits more with McDonalds 'Eora' style (south of Port Jackson and north of the Georges River) that favours fish motifs over animal and human tracks.

The evidence may suggest that the location of stencil-only sites in Mosman were situated away from or 'outside' (and often topographically above) the foreshore zone where routine day to day activity will have taken place and may be showing a preference for a non-domestic association, assuming the foreshore middens represent the subsistence base.

3.2 Archaeological expectations

The following Aboriginal archaeological site predictive statement for the study area was prepared on the basis on the above background heritage review, and prior to the commencement of the current site inspection and assessment of the land:

- *Rock Engravings*: The distribution of engraved sites relates to the occurrence of suitable rock outcrops common in sandstone formations that were used by Aboriginal people in the past for the creation of engraved images. A considerable number of engraving sites are known to occur in Hawkesbury Sandstone country.

  Engravings can occur in groups with numerous depictions of animals, human figures, possible spiritual motifs, and other images of equipment such as shields etc, or single depictions, that generally are found to occur on extensive level sandstone platforms along with smaller ledges and rock exposures.

- *Axe Grinding Grooves*: These are grooves which resulted from the manufacture and/or maintenance of the working edge of some stone tools such as axe/hatchet heads by people in the past. They may be found where suitable sandstone is exposed in, or adjacent to, creeks or on elevated platforms where wet-grinding techniques are possible adjacent to natural rock holes and shallow 'basins'.

  As for rock engravings, axe/hatchet grinding grooves may occur in large 'clusters' that serves to facilitate their ready recognition, or may conversely comprise isolated items that are often difficult to detect within certain light conditions.

- *Open Camp Sites*: These sites occur on dry and elevated hill and ridge top topographies with favourable sight lines and communication attributes in between drainage. However, repeatedly or continuously occupied sites are more likely to be located on elevated ground situated at principal creek confluences in the local landscape. Surface scatters of flaked stone artefacts (or potentially durable food remains such as animal and fish bone or shell) may be the result of mobile hunting activities, while single or low density occurrences might relate to tool loss, tool maintenance activities or abandonment. These types of sites are often buried in alluvial or colluvial deposits and only become visible when subsurface sediments are exposed by erosion or disturbance.

  A number of definitions exist in the archaeological literature for which the term *background archaeological scatters* may apply. This refers to be low density presence of Aboriginal archaeological material across most landforms on the Cumberland Plain. Often isolated finds or artefacts out of context, Aboriginal archaeological material is present across much of the region as a result of the time depth in which Aboriginal people have been present and utilising resources on the Cumberland Plain. This time depth when related to variables such as: changes in past Aboriginal populations; landuse

regimes, artefact reduction methods and the longevity of Aboriginal stone artefacts in the archaeological record and combined with natural erosion processes have served to create what archaeologists call a 'background scatter' of archaeological material in which whole and *in situ* Aboriginal archaeological sites are identified and studied.

- *Isolated Artefacts*: These items occur without any associated evidence for prehistoric activity or occupation. Isolated finds can occur anywhere in the landscape and may represent the random loss, deliberate discard or abandonment of artefacts, or the remains of dispersed artefact scatters. Manuports are items consisting of raw materials of stone that do not naturally occur within the soil profiles of a given region. Transported onto a site by Aboriginal people from sources elsewhere, these items will have subsequently been discarded before use as flaked or ground stone tools.
- *Manuports* refer to items of raw materials of stone that do not naturally occur within the soil profiles of a given region. Transported onto a site by Aboriginal people from sources elsewhere, these items will have subsequently been discarded before use as flaked or ground stone tools.
- *Potential Archaeological Deposit (PAD):* A number of definitions also exist in the archaeological literature for which this term may apply.

This term generally refers to an area of subsurface archaeological sensitivity that has not undergone any significant levels of disturbance in historical times, whereby archaeological excavation of a PAD is considered likely to yield intact subsurface Aboriginal artefacts and/or artefact-bearing deposits. The identification of areas of PAD is generally based on landscape and environmental factors such as topography, hydrology and proximity to local resources. PADs can either be identified in association with identifiable surface artefacts or on the basis of landscape and environmental factors alone.

4.0 Site inspection

4.1 Recording methods

The fieldwork reported here followed standard methods (NPWS 1997 and OEH 2010) and the site recording included consideration of landforms, topography, nature and extent of ground exposures/visibility; and extent of disturbances. A sample of the images recorded that characterise the nature and condition of the study area are presented below.

4.2 Field observations in summary

The following images illustrate the landscape character of the study area, and its existing condition. The land slopes relatively steeply from north (west) to south (east) and consists of a series of benched and shelved horizontally bedded elements and large rounded but irregular boulder outcrops. Some of these outcrops have been variously blasted, cut and broken and the elements laterally dispersed. This is especially evident around the edges of the site where the roughly triangular shaped block is defined by existing roads and buildings. The spaces in between the surface outcrops and where no surface rock occurs (other than small rubble material), is uniformly covered by a mantle of redeveloped colluvial soil and introduced garden soil and mulch materials, and possibly along with accumulated dumped soil (and rubbish) deposits. The depth of this soil material in different parts of the site is likely to be irregular, and will be dependent to an extent upon the nature of the subsurface rock profile. The surface soil deposits are likely to seal additional sandstone surfaces comparable in form and composition to the rock terrain that is exposed at the surface, and also possibly pockets of original topsoil trapped between or below buried rock ledges and shelves.

The surface of the rock exposures are generally coarse in texture (corrugated and ridged with frequent large quartz inclusions) and/or friable, and some show evidence for their having been (possibly) blasted and displaced from larger sandstone elements during previous construction works. A small number of the larger rock elements also display evidence for cavernous weathering, suggesting the originally steep jumbled rock terrain included some vertical rock faces with some form of ‘overhang’, but the configuration of the surviving sandstone topography in general is not suggestive of the type of cliff face evident on Bird Show Road for example that includes the Aboriginal hand stencil site along with a number of nearby remnant overhangs with remnant rooflines and back walls.

The vegetation is all immature, and archaeological visibility conditions were reduced by the high occurrence of leaf litter, but this is not considered to be a constraint on this study. The surface materials are all either ‘fill’ (introduced as garden planting material or dumped) or recently developed soils, and no in situ natural ground surfaces (other than the outcrops themselves) are currently exposed.

Figure 4.1: Benched sandstone outcrops at the southwest corner of the study area looking north. It is unknown whether the construction of the current access road in the foreground resulted in the truncation of these rock elements, or if the topography was modified prior to this time

Figure 4.2: The same location showing the spatial arrangement of the main rock elements

Figure 4.3: This image is a short distance to the east of the preceding two, and shows (yellow) basal (B horizon) clay in the road cutting in the foreground overlain by seemingly introduced fill and/or comparatively recent redeveloped top soil

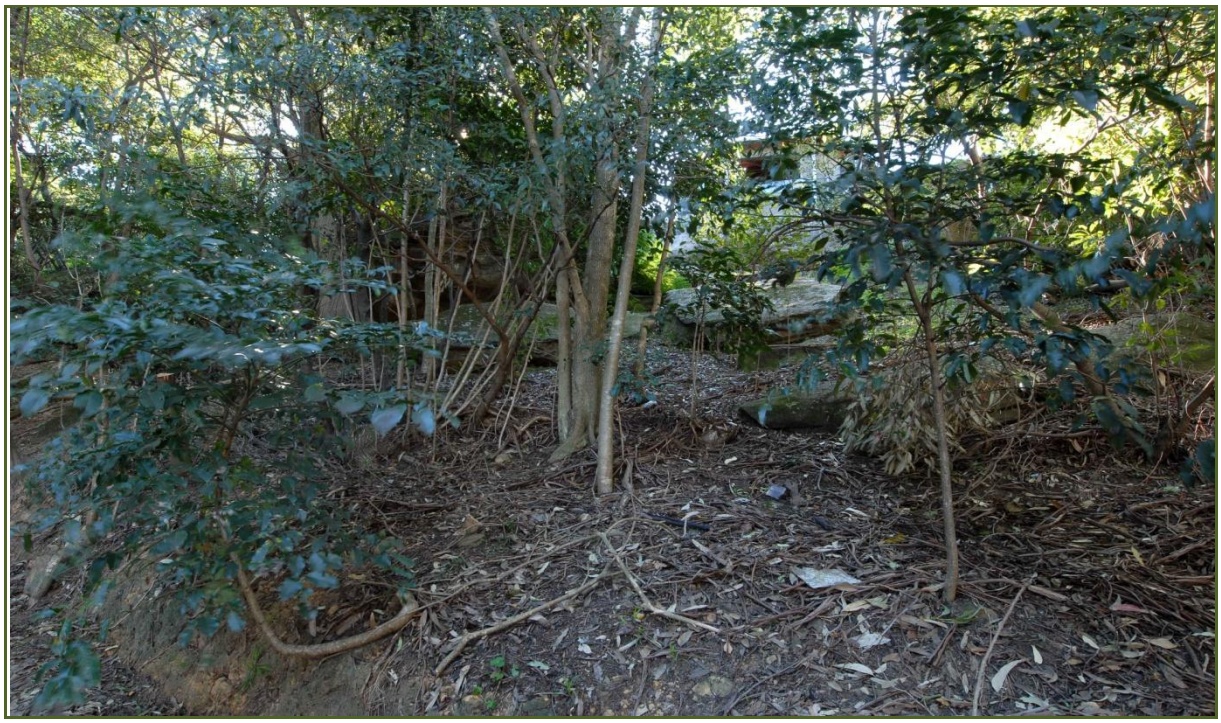


Figure 4.4: Benched sandstone element with minor cavernous weathering extending to ground level in the case of the lower sandstone slab and small 'overhang'

Figure 4.5: The arrangement of the smaller (but sizeable) flat-tabular rock elements in the foreground suggests they have been displaced laterally from the larger sandstone outcrop during past works in the locality (road)

Figure 4.6: These sandstone items appear to have been 'broken off' from larger elements upslope and may seal intact subsurface soil profiles

Figure 4.7: In situ sandstone outcropping and surface rock occurrence within the study area deceases from west to east. The slope of the ground suggests further rock shelves and benches are likely to remain buried by the surface topsoil materials illustrated, although the nature and extent of excavation northward to construct the road is unknown

Figure 4.8: Looking south and down slope from the highest point within the study area in the northwest corner

Figure 4.9: This slope (looking south from nearby the image above) is partly fill and seemingly derived from adjacent constructions, but further down slope in the vicinity of the principal sandstone outcropping, the original ground surfaces (soil or rock) are likely to be covered by a comparatively shallow depth of fill (garden mulch etc) and/or recently redeveloped ('Zoo period') soil profiles

Figure 4.10: The study area contains few to n flat areas of any size (centre of site looking east)

Figure 4.11: Garden planter edge/Low retaining wall at the north-western corner of the study area. The humic soil materials (seemingly accumulated as a result of one or successive 'dumping' episodes include glass and ceramic materials

Figure 4.12: Distribution of dark soils materials with European artefacts down slope

Figure 4.13: This area down slope from the stone wall appears to have been filled with a combination of sandstone rubble and loam materials. A number of near whole and broken glass bottles that are dated to the mid 1920s, along with ceramics seemingly of a similar period, are located on the ground surface in this locality

Figure 4.14: Date stamped beer and medicinal (and aerated Schweppes) bottles and some miscellaneous ceramics recorded on the ground surface of the study area. The items have been put back in their place of recording

Figure 4.15: These bottles may date the deposit they are in, and may have remained undisturbed since that time (1920s) and/or they may relate to the dumping periodically, or in one go, these materials at any time since

4.3 Results

4.3.1 Aboriginal; heritage

The background Aboriginal archaeological research, site inspection, and assessment of the study area undertaken for the current study indicate that:

- No *previously* documented Aboriginal archaeological sites or 'objects' are known to occur within the boundaries of the study area or in immediately adjacent areas. The nearest known site on Bird Show Road will not be affected by the proposal.
- No sandstone overhangs (generally created through processes of cavernous weathering and/or rock fall from extensive cliff-lines etc) suitable for habitation or use by people in the past occur within the study area although small cliff faces may have formed part of the original topography.
- No rock engravings have been identified on the exposed vertical and sloping rock surfaces, although some surfaces partly exposed at ground level continue below ground and have buried portions below a mix of surface soil, sandstone pebble and cobble fragments, and leaf litter. The horizontal surfaces and vertical faces of the exposed sandstone are seemingly unsuitable (or at least possibly unattractive) to Aboriginal people for the creation of engraved images. The majority of engravings recorded in the local landscape generally occur on relatively flat and smooth sandstone platforms of varying size.
- No axe grinding grooves have been identified in the study area.
- None of the timber displays any evidence for cultural modification. In any case, the trees are either sapling re-growth or relatively immature specimens and not of sufficient age to display evidence of past Aboriginal scarification.
- No open campsites (or isolated finds of flaked stone etc) have been identified on the track. While these types of archaeological evidence can be difficult to detect in sandstone landscape contexts such as reported here, there is no reason to expect that the current study area was subject to intensive or repeated visitation and use by Aboriginal people in the past that would have created substantial and significant archaeological deposits.
- The study area itself would not seem to contain any 'stand out' or highly valuable resources suggesting the place may have been visited sporadically by people in the past as they moved to and from more attractive landscape contexts and resource zones. The terrain originally consisted of steeply benched and jumbled rock slopes with little or no flat ground.
- No specific areas of *potential Aboriginal archaeological sensitivity* relative to the proposal have been identified through consultation with the MLALC and in the course of preparing this report.

It is expected that any as yet undetected evidence for past Aboriginal visitation and use of the site that may be exposed by future works will consist of isolated items or low-density distributions of flaked/ground stone in pockets of surviving topsoil, or less likely, possible rock engravings/axe grinding grooves that may be obscured by existing vegetation covers. The latter are however considered to be relatively unlikely to be present given the nature of the partly outcropping sandstone which gives a clue to the likely character of the subsurface sandstone profiles.

4.3.2 Non-Aboriginal heritage

A collection of mainly broken beer and medicinal and ceramic items were located on the ground surface in the northwest corner of the site. About a dozen of the larger items were (temporarily) collected and recorded, and possibly 100+ smaller and fragmentary items were observed. The materials extend down slope from higher topography to the north towards a cluster of sandstone elements located at a little elevation. The materials have been possibly displaced and dispersed by a recent turkey nest, that has created its own humic 'soil', but it appears that the artefacts derive from pre-existing humic rich topsoil that has been dumped onto the site in the past. The relationship of the surface bottles and ceramics items observed in a humic soil matrix, and the underlying and otherwise uniform cover of leaf litter and redeveloped soil across the site, is not clear.

The beer bottles, and a few of the medicinal bottles (all have makers brands and sometime dates) all are dated 1925 to 1927, and no obviously recent materials (plastic, late twentieth century glass types and manufacture methods etc) other than the occasional blown in wrapper were identified on the ground surface. This may suggest the 'leftover' bit of topography, which has no exhibit or other attraction on it and is not accessible from any specific route or point other than from down a steep bank from the north or up a road side bank verge from the south, may have remained largely unused and undisturbed for a considerable period of time.

The artefacts may relate to the discard of objects by workers for example during construction activities (for possibly the roadways) in the 1920s that have only recently been disturbed by brush turkey nesting. The materials could also relate to historic 'clean up'(s) of this type of domestic rubbish which has been dumped down the slope from the north, along with other soil and mulch materials.

It is unlikely that subsurface archaeological deposits associated with the surface bottle materials were originally created and/or now survive within the study area. It is more likely that this introduced/dumped fill material has been deposited over a sloping but irregular (benched and shelved) buried bedrock profile which may (or may not) retain isolated patches and pockets of probably shallow sandy-clay soil derived from the decomposition of the sandstone bedrock. The likelihood that intact subsurface archaeological deposits with further artefacts remain buried at the site is low, but it is probable that further artefacts remain buried below current ground levels but which occur within the fill and underlying redeveloped loam mantle is possible.

Figure 4.16: Tea cup fragment with printed gold rim (3mm wide) and image of a kookaburra upon a branch. The kookaburra is encircled by the words 'Taronga Park Sydney'. Atop the circle is a bejewelled crown. The insignia is a dark reddish/brown in colour. Printed on the inside of the cup is a thin gold line (1mm)

Figure 4.16: The Zoo tearooms/refreshment rooms had their own china and had a high reputation (jean Rice). This cup fragment would have been from there (note china in the foreground)

4.4 Due diligence considerations

4.4.1 Aboriginal heritage

Step 1. Will the activity disturb the ground surface?

The proposal will require the existing rocky terrain to be adapted for use as part of a future lion exhibit. The site is sloping and contains few level spaces, and may require considerable filling in places to make useable. Future excavation can be minimised with careful design and the incorporation and use of existing contours.

The ground surfaces between the outcropping rock consists of various depths of redeveloped colluvial soil materials probably inter mixed with fill materials deposited during/after the construction of the southern road or northern zoo infrastructure to stabilise plantings on the rocky and unstable ground.

Step 2a. Search the AHIMS database and use any other sources of information of which you are already aware

There are no known Aboriginal sites or objects on and/or immediately nearby to the study area. The nearest known site (and the only know Aboriginal recording within the zoo grounds) will remain unaffected by the proposal.

Step 2b. Activities in areas where landscape features indicate the presence of Aboriginal objects

There are no specific landscape features or resources contained within the study area that indicate (or increase the likelihood for) the presence of Aboriginal objects.

Step 3. Can you avoid harm to the object or disturbance of the landscape feature?

No identified Aboriginal objects or areas of potential archaeological sensitivity will be impacted by the proposal.

Step 4: Desktop assessment and visual inspection

The site retains minimal potential for rock engravings or grinding grooves to be buried beneath existing ground surfaces due to the unsuitable sandstone present (at the surface), and there are no overhangs suitable for shelter (or painting), and none of the trees are of culturally significant age.

Step 5. Further investigations and impact assessment

No further heritage assessment of the site is warranted.

4.4.2 Non-Aboriginal heritage

The surface artefacts (glass beer and medicinal bottles etc) located in the northwest of the study area all date by manufacture to the mid 1920s, and the piece of land may have remained relatively undisturbed since that

time (if the items are in situ and were not dumped recently) by virtue of its physical and spatial isolation from its surrounding public spaces and exhibits.

It is not considered likely that any sub surface archaeological deposits associated with these surface finds were either created at the site in the first instance (although the bottles may have been discarded there in situ) and are also unlikely to be present/survive now. It is however likely that further objects that may have Local heritage value to the Zoo remain buried in the northwest corner of the site where deposits are presently been turned-over and dispersed by turkey nest building.

5.0 Evaluation and conclusions

5.1 Aboriginal archaeological heritage impact statement

This archaeological heritage assessment indicates that:

- No Aboriginal sites, objects or isolated finds have been identified within the study area.
- There is no reason to expect the study area itself would have been used or visited intensively or repeatedly by Aboriginal people in the past that would have involved activities that would have created substantial archaeological deposits. The site does not appear to have originally contained raw materials resources (beyond sandstone) that were highly sought after by people that would have marked the site as a particularly desirable campsite location. It is more likely that the site may have been visited sporadically by people over time as they moved to and from more attractive places in the landscape with resources.

5.2 Mitigation options and actions

A number of actions can be implemented during future works to mitigate impacts to potential Aboriginal archaeological resources that remain undetected at this time. These include:

- Briefing site contractors about the nature of archaeological sites and issues of potential sensitivity when sandstone surfaces previously obscured by vegetation for example are to be exposed.
- Avoidance and protection during future construction of the main sandstone elements on the site, and careful hand clearance of vegetation and rock where required.
- Where any Aboriginal archaeological evidence may be exposed during the recommended program of site monitoring during construction phases, works should temporarily cease within the immediate vicinity of the find locality, be relocated to other areas of the site (allowing for an appropriate curtilage), and the OEH should be contacted and permission sought for the *Metropolitan Local Aboriginal Land Council* to record the items.
- All efforts should be made to define *specific* and *limited* zones of impact within the study area where excavation is used only where crucial to design, and should be strictly adhered to throughout the course of future construction periods to limit impacts to existing vegetation and landforms.

5.3 Evaluation

On the basis of the above considerations, it is concluded that the proposal is not going to have an adverse impact upon the Aboriginal archaeological values of the place and that no Aboriginal archaeological constraints are apparent for the proposal proceeding as planned subject to the implementation of the management recommendations provided below.

5.4 Non-Aboriginal archaeological heritage impact statement

The recent site survey located a localised surface deposit containing a number of discarded mid 1920s bottles (and ceramics) in the northwest of the study area. There does not appear to be any subsurface archaeological deposit associated with these finds that are considered to be of Local significance.

5.5 Mitigation options and actions

A number of the medicinal bottles that comprise a component of the surface finds have manufacture dates and 'brand' names, and a few base marked ceramics are also present amongst the collection. These objects could be collected and recorded prior to the commencement of future site works that may disturb the items, and the information could be archived and may be useful to future heritage research at the Zoo.

5.6 Evaluation

It is concluded that the proposal is not going to have an adverse impact upon the non-Aboriginal archaeological values of the place and no constraints are evident for the proposal proceeding as planned.

6.0 Recommendations

6.1 Basis for recommendations

The study area assessed for this report contains no documented Aboriginal sites or objects, or any specific areas of potential Aboriginal archaeological sensitivity as evaluated in the course of preparing this report. As a result, it is assessed that the proposal is unlikely to have an adverse impact upon the Aboriginal archaeological cultural heritage values of the place. It is therefore concluded that there are no Aboriginal archaeological or cultural heritage constraints for the proposal proceeding as planned subject to the recognition of the following Aboriginal archaeological and cultural heritage considerations:

- Recognition of the legal requirements and automatic statutory protection provided to Aboriginal 'objects' and 'places' under the terms of the *National Parks and Wildlife Act* of *1974* (as amended), where it is an offence to knowingly damage, deface or destroy Aboriginal sites or relics without the prior consent of the Director-General of the *National Parks and Wildlife Service* (NPWS) that now comprises an administration branch of the OEH.

6.2 Recommendations

I Based on the conclusion that the works proposed will not impact upon any *identified* Aboriginal archaeological sites or objects, and also that the *potential* for undetected Aboriginal archaeological items to occur within the site that may be affected by future uses is assessed to be *low*, it is therefore recommended that there are no *obvious* Aboriginal archaeological (scientific) constraints to the proposal proceeding as intended and that no further Aboriginal archaeological heritage input is warranted.

II In the (largely) unexpected circumstance that any Aboriginal objects are unearthed as a result of track access upgrade works in the future, it is recommended that activities should temporarily cease within the immediate vicinity of the find locality, be relocated to other areas of the subject site (allowing for a curtilage of at least 50m), and the OEH be contacted to advise on the appropriate course of action to allow the MLALC to record and collect the identified item(s).

7.0 References

Attenbrow, V.J. 2010. **Sydney's Aboriginal Past. Investigating the Archaeology and Historical Records**. Second Edition. University of NSW Press.

Attenbrow, V.J. 2011. 'The Role of Marine Resources in the Diet of the Pre-Colonial Aboriginal People and Land Use Patterns Around Port Jackson, Sydney, new South Wales, Australia'. In N.F. Bicho et al (eds.), **Trekking the Shore. Changing Coastlines and the Antiquity of Coastal Settlement**.463-491. Springer.

Australia ICOMOS. 2013 (Revised). The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance. The Burra Charter and its associated Guidelines. Canberra.

Benson, D. and J. Howell. 1990. **Taken for Granted: The Bushland of Sydney and its Suburbs**. Kangaroo Press. Kenthurst.

Chapman, G.A. & G.L. Murphy. 1989. **Soil Landscapes of the Sydney 1:100,000 Sheet**. Soil Conservation Society of NSW.

DECCW (April) 2010a. Aboriginal Cultural Heritage Consultation Requirements for Proponents. Part 6 National Parks and Wildlife Act 1974.

DECCW (September) 2010b. Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales. DECCW. Sydney.

DECCW (September) 2010c. Due Diligence Code of Practice for the Protection of Aboriginal Objects in New

Godden Mackay Logan. 2002. Conservation Strategy. Report to the Zoological Parks Board of NSW.

Godden Mackay Logan. 2004. Taronga Zoo. Archaeological Management Plan. Report to the Zoological Parks Board of NSW.

Jo McDonald CHM Ltd. 2005b (October). Archaeological Salvage Excavation of Site RTA-G1. 109-113 George Street, Parramatta, NSW. Report to Landcom.

Kelleher, M. 2009. 'Aboriginal art in the Blue Mountains' in E. Stockton and J. Merriman (eds.). **Blue Mountains Dreaming**. **The Aboriginal Heritage**. Blue Mountains Education and Research Trust (Second Edition): 74-101.

Kohen, J.L., E.D. Stockton & M.A.J Williams, M.A.J. 1984. 'Shaws Creek KII Rockshelter: A Prehistoric occupation Site in the Blue Mountains Piedmont, Eastern New South Wales'. **Archaeology in Oceania** Volume 19:57-93.

Kohen, J.L. and R.J. Lampert. 1987. 'Hunters and Fishers in the Sydney Region'. In Mulvaney, D.J. and J.P. White (eds.), **Australians to 1788**: 343-365. Fairfax. Syme and Weldon Associates. Sydney.

Lampert, R.J. 1971. Burrill Lake and Currarong. **Terra Australis 1**. Department of Prehistory. Research School for Asia and Pacific Studies, ANU. Canberra.

Maynard, L. 1976. An Archaeological Approach to the Study of Australian Rock Art. M.A. Thesis. University of Sydney.

McDonald. J.J. 1987. Sydney Basin Aboriginal Heritage Study: Shelter Art Sites. Stage II. Sydney, New South Wales National Parks and Wildlife Service.

McDonald, J.J. 1990. Sydney Basin Aboriginal Heritage Study: Rock Engravings and Shelter Art Sites. Stage III. Sydney, New South Wales National Parks and Wildlife Service.

McDonald, J.J. 2008. **Dreamtime Superhighway. Sydney Basin Rock Art and Prehistoric Information Exchange**. ANU Press. Canberra.

McMah, L.A. 1965. A Quantitative Analysis of the Aboriginal Rock Carvings of the District of Sydney and the Hawkesbury River. Unpublished BA (Hons.) Thesis. Department of Anthropology, University of Sydney.

NSW Heritage Office. 1996. NSW Heritage Manual. NSW Heritage Office and the Department of Urban Affairs and Planning. Sydney (Revised 2002).

NSW Heritage Office. 2006. Historical Archaeology Code of Practice. NSW Heritage Council and the NSW Department of Planning. Sydney.

Stockton, E.D. & W.N. Holland. 1974. 'Cultural Sites and Their Environment in the Blue Mountains' **Archaeology and Physical Anthropology in Oceania**. Volume 9(1):36-65.

Appendix 1

MLALC Cultural Heritage Statement

Jay Daley

Cultural heritage Sites Officer

culturalheritage@metrolalc.org.au

Aboriginal stakeholder cultural heritage

Primary survey report

Tarronga Zoo, African exhibition precinct

June 2016

1

Purpose of this assessment

This assessment's purpose is to determine whether any features of cultural heritage significance occur within the study area of this project being carried out by , and whether they would be affected by the project.

Project details

Project title:

Dominic Steele Consulting Archaeology

Taronga Zoo

The study area is located inside the Taronga Zoo
Jay Daley is the Aboriginal site officer completing this assessment on behalf of the Metropolitan Local Aboriginal Land Council (MLALC).

This assessment was carried out on June 2016

2

Site Background

This site that has been chosen to have a African Exhibition precinct, this area has large sand stone rock wall that is Natural land scape on a slight hill, wer found no visible items of concern, the top side of the site there is a walking platform for tourists.

Conclusion

As there were no objects of Aboriginal cultural significance identified during the assessment, the Metropolitan Local Aboriginal Land Council have no objection to the proposed development of this site. But if any earth works minor or major or disturbing of the natural earth level than myself and an Archaeologist should be notified before the work has begun to be present on the site to protect any cultural items that may be present. I am confident that if these guide lines are followed than Aboriginal heritage items will be protected and cared for in the correct way.

3

Appendix 2

OEH AHIMS Site Searches for Taronga Zoo

Office of Environment & Heritage
NSW GOVERNMENT

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : Taronga Zoo
Client Service ID : 160325

Dominic Steele Archaeological Consulting
21 Macgregor Street
CROYDON New South Wales 2132
Attention: Dominic Steele
Email: dsca@bigpond.net.au

Date: 26 January 2015

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 336880 - 337900, Northings : 6253330 - 6254150 with a Buffer of 50 meters, conducted by Dominic Steele on 26 January 2015.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

15	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. *It is not be made available to the public.*
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

3 Marist Place, Parramatta NSW 2150
Locked Bag 5020 Parramatta NSW 2220
Tel: (02) 9585 6380 Fax: (02) 9873 8599

ABN 30 841 387 271
Email: ahims@environment.nsw.gov.au
Web: www.environment.nsw.gov.au

NSW GOVERNMENT Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : Taronga Zoo Ext
Client Service ID : 160326

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-6-2065	Little Sirius Pt. 1;Mosman;	AGD	56	336782	6253460	Closed site	Valid	Shell : -,Artefact : -	Shelter with Midden	1809,2025
	Contact	**Recorders**	Margrit Koettig,Michael Guider					**Permits**		
45-6-2064	Little Sirius Pt. 2;Mosman;	AGD	56	336790	6253460	Closed site	Valid	Shell : -,Artefact : -	Shelter with Midden	1809,2025
	Contact	**Recorders**	Michael Guider					**Permits**		
45-6-2063	Little Sirius Pt. 3;	AGD	56	336792	6253460	Open site	Valid	Shell : -,Artefact : -	Midden,Open Camp Site	1809,2025
	Contact	**Recorders**	Michael Guider					**Permits**		
45-6-1701	Little Sirius Cove Midden;	AGD	56	336837	6253788	Closed site	Valid	Artefact : -,Shell : -	Midden,Shelter with Deposit	1293,2025
	Contact	**Recorders**	Val Attenbrow,A.K Morris					**Permits**		
45-6-1702	Sirius Park Midden;	AGD	56	336850	6253973	Open site	Valid	Artefact : -,Shell : -	Midden,Open Camp Site	1293,1809,2025
	Contact	**Recorders**	Val Attenbrow,A.K Morris					**Permits**		
45-6-1959	Taronga Zoo Cave;Mosman;	AGD	56	336980	6253650	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	2025
	Contact	**Recorders**	Michael Guider					**Permits**		
45-6-2130	Athol Bay Cave;Mosman;Taronga Park Zoo;	AGD	56	337250	6253390	Closed site	Valid	Shell : -,Artefact : -, Art (Pigment or Engraved) : -	Shelter with Art,Shelter with Midden	2025
	Contact	**Recorders**	Margrit Koettig,Michael Guider					**Permits**		
45-6-2119	Mosman Athol Beach	AGD	56	337460	6253150	Open site	Valid	Artefact : -	Open Camp Site	1895,2025
	Contact	**Recorders**	Val Attenbrow,Michael Guider					**Permits**		
45-6-2118	Mosman Bradley's Head	AGD	56	337474	6253300	Closed site	Valid	Shell : -,Artefact : -	Shelter with Midden	1895,2025
	Contact	**Recorders**	Michael Guider					**Permits**		
45-6-2066	Red Ochre Fish	AGD	56	337481	6253127	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	1809,1895,2025
	Contact	**Recorders**	Michael Guider					**Permits**		
45-6-2323	Birds Nest Cave;Clifton Gardens;	AGD	56	337530	6253810	Closed site	Valid	Shell : -,Artefact : -	Shelter with Midden	
	Contact	**Recorders**	Michael Guider					**Permits**		
45-6-2807	Bradleys Head East 1	AGD	56	337739	6253143	Open site	Valid	Habitation Structure : 1, Shell : 1		
	Contact T Russell	**Recorders**	Ms.Alison Nightingale					**Permits**		
45-6-2322	Red Fish 2;Mosman;	AGD	56	337740	6253090	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	Contact	**Recorders**	Michael Guider					**Permits**		

Report generated by AHIMS Web Service on 26/01/2015 for Dominic Steele for the following area at Datum :GDA, Zone : 56, Eastings : 336880 - 337900, Northings : 6253330 - 6254150 with a Buffer of 50 meters. Additional Info : For an arch assessment. Number of Aboriginal sites and Aboriginal objects found is 15

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Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : Taronga Zoo Ex

Client Service ID : 160326

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-6-2320	Burragi Cave;Mosman;	AGD	56	337790	6253250	Closed site	Valid	Shell : -, Artefact : -	Shelter with Midden	
	Contact	**Recorders**		Michael Guider				**Permits**		
45-6-2808	Bradleys Head East 2	AGD	56	337794	6253270	Open site	Valid	Habitation Structure : 1, Shell : 1		
	Contact	**Recorders**		Ms.Alison Nightingale				**Permits**		
	T Russell									

Report generated by AHIMS Web Service on 26/01/2015 for Dominic Steele for the following area at Datum :GDA, Zone : 56, Eastings : 336880 - 337900, Northings : 6253330 - 6254150 with a Buffer of 50 meters. Additional Info : For an arch assessment. Number of Aboriginal sites and Aboriginal objects found is 15

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[√] New Recording

National Parks and Wildlife Service

BOX N189, GROSVENOR STREET POST OFFICE, SYDNEY, NSW 2000. TEL (02) 237 6500

Standard Site Recording Form

45-6-1959

MAP NAME	EDITION	SCALE	REFERENCE	HEAD OFFICE USE ONLY:
Parramatta River 9130-3-N	2nd	1:25000	3/3698 62/5365	NWPS site no: 45-6-1959 Site types: SELECTION V ART File nos: Date 29-1-90 Filed by: Rchy

Site name: TARONGA ZOO CAVE Locality/~~property name~~: MOSMAN Owner/Manager: TARONGA ZOO

Local post office: Address: P.O. Box 20 Mosman NSW 2088

NPWS District: SYDNEY Region: METROPOLITAN

Reason for investigation (give R.O. instruction no. where applicable): Mosman Archaeological Survey

Portion no: Parish: WILLOUGHBY Other land category: County: CUMBERLAND	~~Plan~~/sketch/section of site attached? Yes/~~No~~ How many? See back of form
Air photo refs. (for stereo pair)	Photos taken? Yes/~~No~~ How many attached? NONE

How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff. (Draw diagram on separate sheet.) Beside the Dreamtime 81 Mural by M Leslie Shelter is directly opposite the Pygmy Hippotamus exhibit Facing lawn with retaining wall at front.

Other sites in locality? Yes/~~No~~. Site Types include: Shell middens and Art sites

Are sites in NPWS Register? Yes/~~No~~. Unregistered sites — plans for future recording? Yes/~~No~~.

Have artefacts been removed from site? ~~Yes~~/No/~~don't know~~. When?

By whom? Deposited where?

Is site important to local Aborigines? ~~Yes~~/~~No~~/don't know.

Give contact(s) name(s) + address(es)

Contacted for this recording? ~~Yes~~/No.

(Attach additional information separately) If not, why not?

Verbal/written reference sources (including full title of accompanying report). Personal Investigation

Checklist: surface visibility, damage/disturbance/ threat to site	Condition of site: GOOD

Recommendations for management & protection (attach separate sheet if necessary): ADVISE TARONGA ZOO OF SITE NO. WHEN AVAILABLE. TARONGA ZOO informed me that the NPWS knew of this site. I have not seen it on the register.

Site recorded by: MICHAEL GUIDER Date: 19th January 1990

Address/Institution: ROYAL EXCHANGE
P.O. BOX R32
SYDNEY NSW 2000

SITE POSITION & ENVIRONMENT | OFFICE USE ONLY: NPWS site no:

1. Land form a. beach/hill slope/ridge top, etc: b. site aspect: c. slope:

d. mark on diagram provided *or* on your own sketch the position of the site: e. Describe briefly:

f. Local rock type: SANDSTONE g. Land use/effect:

2. Distance from drinking water: UNKNOWN Source:

3. Resource Zone associated with site (estuarine, riverine, forest etc):

4. Vegetation:

5. Edible plants noted: PORT JACKSON FIGS

6. Faunal resources (include shellfish):

7. Other exploitable resources (river pebbles, ochre, etc):

Site type: Rock Shelter WITH ART

CHECKLIST TO HELP: length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.

DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.

ART: area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, patination.

BURIALS: number & condition of bone, position, age, sex, associated artefacts.

TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth.

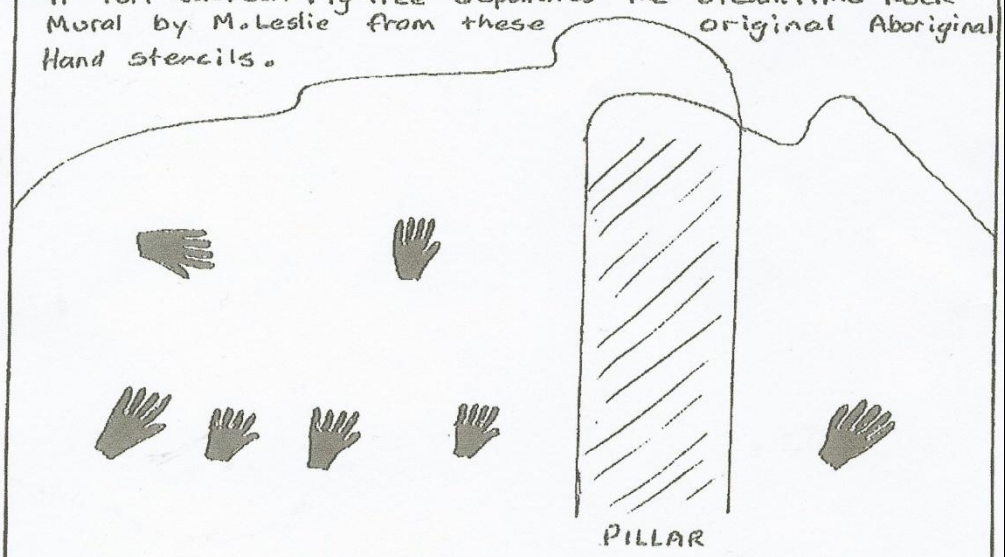
QUARRIES: rock type, debris, recognisable artefacts, percentage quarried.

OTHER SITES EG. structures (fish traps, stone arrangements, bora rings, mia mias), mythological sites, rock holes, engraved groove channels, contact sites (missions massacres cemeteries) as appropriate

DESCRIPTION OF SITE & CONTENTS.

Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.

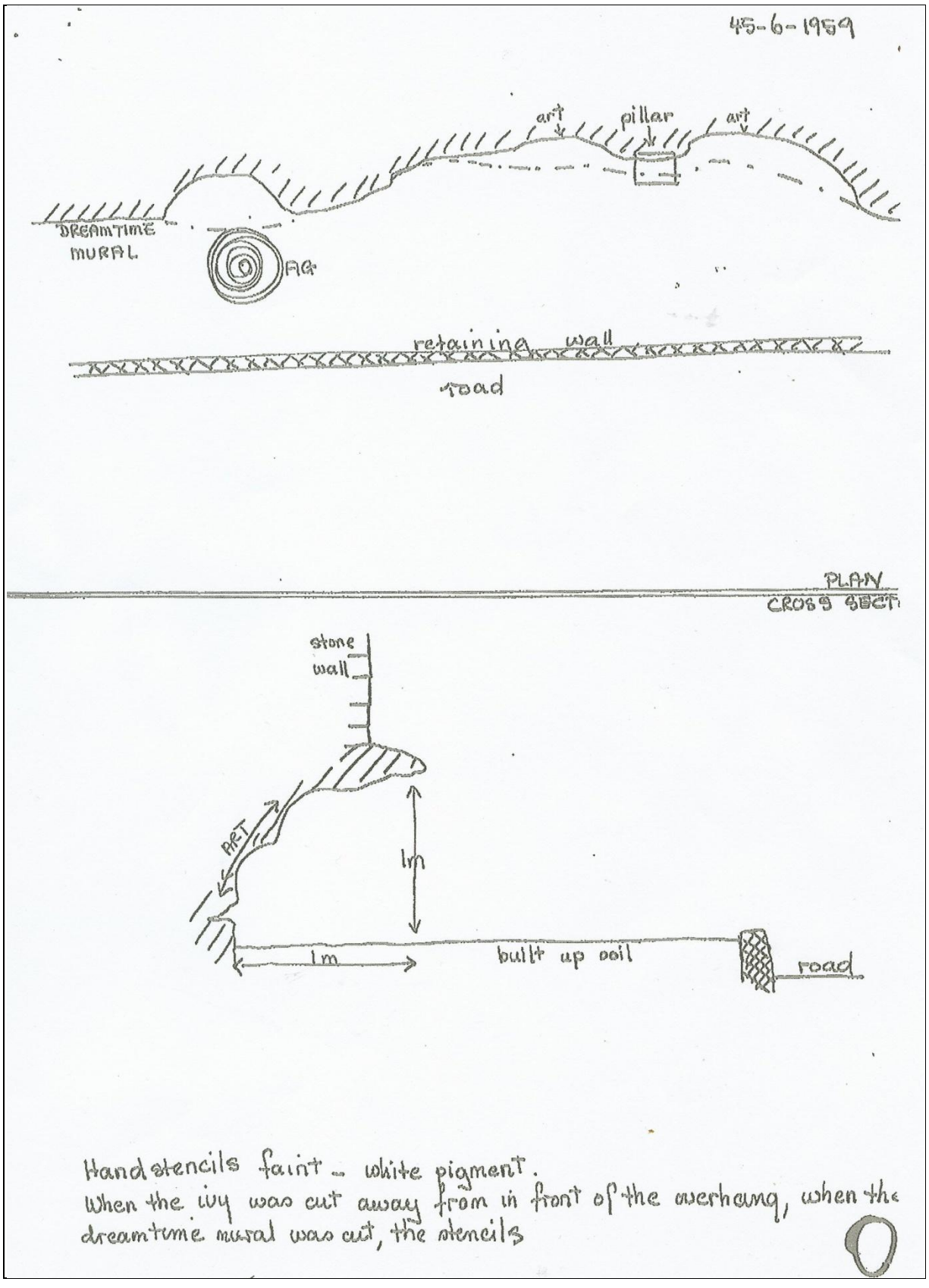
ROCK SHELTER Facing South directly opposite Pygmy hippotamus exhibit
Length 10ft Height 4ft Depth 5ft
A Port Jackson Fig tree separates the Dreamtime Rock Mural by M. Leslie from these original Aboriginal Hand stencils.



7 White Hand Stencils on wall faint but still very clear. No occupation seen on floor grass lawn at front of Shelter built up by retaining wall. The back of the Hunting Dog and Dingo exhibits are directly above cave.

Attach sketches etc, eg. plan & section of shelter, show relation between site contents, indicate north, show scale.

Attach annotated photos (stereo where useful) showing scale, particularly for art sites.


45-6-1959
art
pillar
art
DREAMTIME
MURAL
AG
retaining wall
road
PLAN
CROSS SECT
stone
wall
RET
1m
1m
built up soil
road
Hand stencils faint - white pigment.
When the ivy was cut away from in front of the overhang, when the
dreamtime mural was cut, the stencils

ABORIGINAL SITE INFORMATION - MOSMAN SHIRE

NPWS SITE NUMBER 45-6-1959 SITE NAME _____

1:250,000 GR _____ 1:25,000 GR _____

RESEARCH PROGRAMME: _____

RECORDER Michael Bridges

REPORT _____

BASE GEOLOGY: (1) Hawkesbury Sandstone 2) Wianamatta Shale
3) Holocene alluvium/beach/estuarine infill
4) man made infill

TOPOGRAPHIC UNIT

1) ridgetop 2) slope- base 3) bay
top
mid
4) beach 5) estuary 6)

LAND STATUS 1) national park 9) proposed road
2) reserve 10) residential
(3) modified open space 11) business
council ZOO
private
4) county open space
5) schools, training centres
6) railway
7) hospital
8)

SITE TYPE

1) engraving 2) open midden
(3) shelter/art 4) shelter/deposit
5) shelter/art/deposit 6) shelter/midden
7) shelter/art/midden 8) midden/burial/art
9) 10)

LEVEL OF RECORDING

1) preliminary (2) summary 3) total
4) plans/diagrams 5) photos
6) no details 7) excavated 8) salvage excavation
9) test excavation
10) assemblage analysis - preliminary
comprehensive
none

CONDITION

1) undisturbed (2) partly disturbed 5) destroyed
4) excavated 5) eroded 6) partly eroded
7) exfoliated 8) water damage 9) overgrown
10)

EUROPEAN IMPACT

1) walking track 2) picnic ground
3) camping 4) trail bikes 5) graffiti
6) overgrown 7) building 8)

CURRENT PRESERVATION

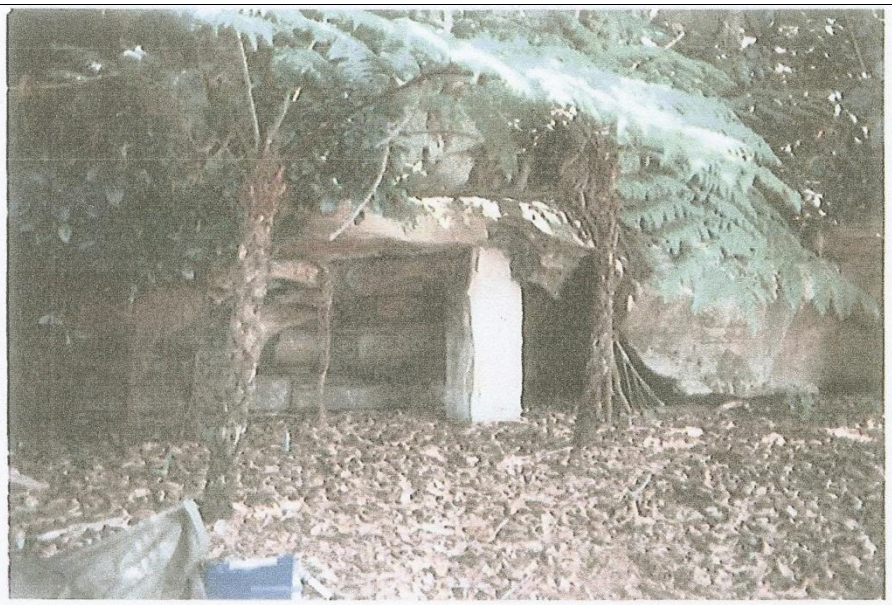
1) fences 2) signs 3) grid
4) covered (turf) 5) stabilised 6) none
7) not known

concrete & pillar

White headstones - paint but clear (?)

located in Zoo Grounds

Visit in January (HC) 1991 - area 8 Headstones.



45-6-1959

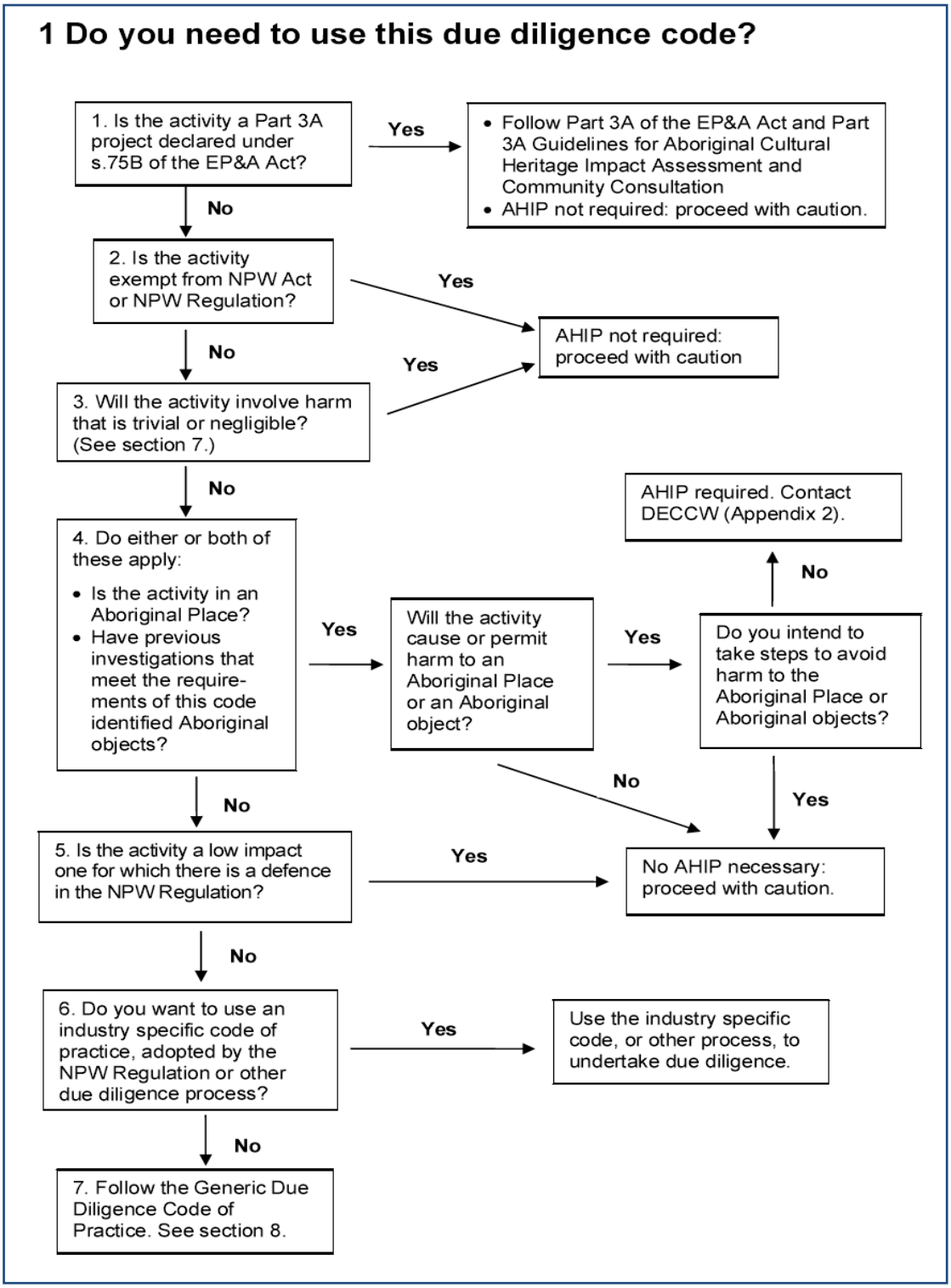
Film 3
Neg 4

Film 3
Neg 5

Appendix 3

OEH Due Diligence Code of Practices

Protection of Aboriginal Objects in NSW – NPWS Act 1974


1 Do you need to use this due diligence code?
1. Is the activity a Part 3A project declared under s.75B of the EP&A Act?
Yes
• Follow Part 3A of the EP&A Act and Part 3A Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation
• AHIP not required: proceed with caution.
No
2. Is the activity exempt from NPW Act or NPW Regulation?
Yes
AHIP not required: proceed with caution
No
Yes
3. Will the activity involve harm that is trivial or negligible? (See section 7.)
No
4. Do either or both of these apply:
• Is the activity in an Aboriginal Place?
• Have previous investigations that meet the require-ments of this code identified Aboriginal objects?
Yes
Will the activity cause or permit harm to an Aboriginal Place or an Aboriginal object?
Yes
Do you intend to take steps to avoid harm to the Aboriginal Place or Aboriginal objects?
No
AHIP required. Contact DECCW (Appendix 2).
No
Yes
No
5. Is the activity a low impact one for which there is a defence in the NPW Regulation?
Yes
No AHIP necessary: proceed with caution.
No
6. Do you want to use an industry specific code of practice, adopted by the NPW Regulation or other due diligence process?
Yes
Use the industry specific code, or other process, to undertake due diligence.
No
7. Follow the Generic Due Diligence Code of Practice. See section 8.

8 The generic due diligence process